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SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT: Weiner, Amy J.
Houghton, Michael

(ii) TITLE OF INVENTION: Conserved Motif of Hepatitis C Virus
E2/NS1 Region

(iii) NUMBER OF SEQUENCES: 134

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Chiron Corporation
(B) STREET: 4560 Horton Street
(C) CITY: Emeryville
(D) STATE: CA
(E) COUNTRY: USA
(F) ZIP: 94608-2916

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.25

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: US 08/823,980
(B) FILING DATE: 25-MARCH-1997
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: 08/061,699
(B) FILING DATE: 12-MAY-1993
(C) APPLICATION NUMBER: 08/757,958
(D) FILING DATE: 25-NOVEMBER-1996

(viii) ATTORNEY/AGENT INFORMATION:

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(C) REFERENCE/DOCKET NUMBER: CHIR-0108

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: 215-564-6525
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(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Xaa

(B) LOCATION: 1

(D) OTHER INFORMATION: /label= variable
/note= "Represents Ala, Arg, Asp, Gly, Lys, Ser,
or Thr"

(ix) FEATURE:

(A) NAME/KEY: Xaa

(B) LOCATION: 2

(D) OTHER INFORMATION: /label= variable
/note= "Represents Ile, Leu, Met, Phe or Trp"

(ix) FEATURE:

(A) NAME/KEY: Xaa

(B) LOCATION: 3

(D) OTHER INFORMATION: /label= variable
/note= "Represents Leu or Phe"

(ix) FEATURE:

(A) NAME/KEY: Xaa

(B) LOCATION: 6

(D) OTHER INFORMATION: /label= variable
/note= "Represents Ala or Gly"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Xaa Xaa Xaa Xaa Xaa Xaa
1 5

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Xaa

(B) LOCATION: 1

(D) OTHER INFORMATION: /label= Dpr
/note= 2,3-diaminopropionic is acetyl cysteine

(ix) FEATURE:

(A) NAME/KEY: Xaa

(B) LOCATION: 2

(D) OTHER INFORMATION: /label= Ahe
/note= 2-amino heptanoic is butyl alanine

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Xaa Xaa Glu Thr His Val Thr Gly Gly Ser Ala Gly His Thr Val Ser
1 5 10 15
Gly Phe Val Ser Leu Leu Ala Pro Gly Ala Lys Gln Asn Val Gln Leu
20 25 30

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Val Ser Leu Leu Ala
1 5

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 7 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Ser Leu Leu Ala Pro Gly Ala
1 5

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Leu Ala Pro Gly Ala
1 5

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 7 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
(A) NAME/KEY: Xaa
(B) LOCATION: 7
(D) OTHER INFORMATION: /label= variable
/note= "Represents Ala, Pro or Ser"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Ser Leu Leu Xaa Xaa Gly Xaa
1 5

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 7 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:
(A) NAME/KEY: Xaa
(B) LOCATION: 7
(D) OTHER INFORMATION: /label= variable
/note= "Represents Ala, Pro or Ser"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Ser Leu Phe Xaa Xaa Gly Xaa
1 5

(2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids.
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 1
 - (D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 3
 - (D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 8
 - (D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 14
 - (D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 16
 - (D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 17
 - (D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 21
 - (D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"
- (ix) FEATURE:
 - (A) NAME/KEY: Xaa
 - (B) LOCATION: 22

(D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"

(ix) FEATURE:

(A) NAME/KEY: Xaa
(B) LOCATION: 24
(D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"

(ix) FEATURE:

(A) NAME/KEY: Xaa
(B) LOCATION: 27
(D) OTHER INFORMATION: /label= variable
/note= "Represents Any Amino Acid"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Xaa	Thr	Xaa	Val	Thr	Gly	Gly	Xaa	Ala	Ala	Arg	Thr	Thr	Xaa	Gly	Xaa
1			5				10						15		
Xaa	Ser	Leu	Phe	Xaa	Xaa	Gly	Xaa	Ser	Gln	Xaa	Ile	Gln	Leu	Ile	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Ala	Thr	Tyr	Ala	Thr	Gly	Ala	Ala	Gln	Gly	His	Ala	Thr	Asn	Ser	Phe
1			5					10					15		
Val	Ser	Leu	Phe	Arg	Ser	Gly	Ala	Ser	Gln	Asn	Leu	Lys	Leu	Val	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Ser Thr Gln Val Thr Gly Gly Gln Ala Ala His Thr Val Arg Gly Val

1	5	10	15
Ala	Ser	Ile	Phe
	Ser	Pro	Gly
	Ser	Arg	Gln
		Asp	Ile
		Ser	Leu
			Ile
	20	25	30

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Ser	Thr	Arg	Val	Thr	Gly	Gly	Gln	Gln	Gly	Arg	Ala	Val	His	Gly	Ile
1				5					10					15	
Ala	Ser	Leu	Phe	Ser	Leu	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Ser	Thr	His	Val	Met	Gly	Ala	Gln	Gln	Gly	Arg	Val	Ala	Lys	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Gly	Pro	Gly	Pro	Ala	Gln	Lys	Ile	Gly	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Ser Thr His Val Thr Gly Ala Val Gln Gly His Ser Ile Arg Gly Leu

1	5	10	15
Thr Ser Leu Phe Thr Ser Gly Pro	Ala Gln Lys Ile Gln Leu Val		
20	25	30	

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

Glu Thr His Val Thr Gly Gly Ile Ala Ala Lys Thr Thr Ala Ser Leu		
1	5	10
Thr Gly Leu Phe Asn Leu Gly Ala Lys Gln Asn Ile Gln Leu Ile		
20	25	30

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

Glu Thr His Val Thr Gly Gly Asn Ala Gly Arg Ala Ala Ala Gly Ile		
1	5	10
Ala Gly Leu Phe Thr Leu Gly Ala Lys Gln Asn Val Gln Leu Ile		
20	25	30

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Gln Thr Arg Val Thr Gly Gly Thr Ala Ala Gln Ser Thr Ala Arg Ile

1	5	10	15
Ala Gly Leu Phe Ser Leu Gly Ala	Arg Gln Asn Ile Gln Leu Ile		
20	25	30	

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

Gln Thr His Val Met Gly Gly Thr Ala Gly Arg Asn Ala Tyr Gly Leu
1 5 10 15
Thr Ser Phe Leu Ser Val Gly Ala Ser Gln Lys Ile Gln Leu Ile
20 25 30

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

Glu Thr His Val Met Gly Gly Ala Ala Ser Ser Thr Thr Tyr Arg Phe
1 5 10 15
Ala Ser Leu Phe Thr Ser Gly Pro Ala Gln Lys Ile Gln Leu Val
20 25 30

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

Glu Thr His Val Thr Gly Gly Ser Ala Ala Ser Thr Thr Ala Thr Phe

1	5	10	15
Ser	Lys	Leu	Phe
20	Met	Pro	Gly
	Ala	Ser	Gln
	25	Asn	Ile
		Gln	Leu
		30	Ile

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Gly	Thr	Thr	Arg	Val	Gly	Gly	Ala	Ala	Ala	Arg	Thr	Thr	Ser	Ser	Phe
1				5					10					15	
Ala	Ser	Leu	Leu	Thr	His	Gly	Pro	Ser	Gln	Asn	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Gly	Thr	His	Val	Thr	Gly	Gly	Ala	Ala	Ala	Arg	Asp	Ala	Phe	Arg	Phe
1				5					10					15	
Ser	Ser	Leu	Phe	Thr	Arg	Gly	Pro	Ser	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:22:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Ala Thr Asn Met Thr Gly Gly Ala Pro Ala Arg Thr Thr Tyr Lys Leu

1	5	10	15
Thr Thr Leu Phe Ser Tyr Gly Ala [*] Ser Gln Lys Ile Gln Leu Ile			
20	25	30	

(2) INFORMATION FOR SEQ ID NO:23:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

His Asn His Val Thr Gly Gly Thr Ser Ala Arg Asn Thr Phe Gly Ile			
1	5	10	15
Thr Thr Leu Phe Thr Gln Gly Pro Ser Gln Lys Leu Gln Leu Val			
20	25	30	

(2) INFORMATION FOR SEQ ID NO:24:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Gly Thr His Val Thr Gly Gly Ala Ala Ala Arg Asn Ala His Ser Leu			
1	5	10	15
Thr Ser Leu Leu Ala Pro Gly Ala Ser Gln Lys Ile Gln Leu Ile			
20	25	30	

(2) INFORMATION FOR SEQ ID NO:25:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Thr Thr Arg Val Ser Gly Gly Thr Ala Ala His Thr Thr Ala Gly Leu			
1	5	10	15

Thr Ser Leu Phe Ser Pro Gly Pro Arg Gln Asn Ile His Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:26:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Thr Thr His Val Ser Gly Gly Thr Ala Gly Arg Thr Thr Ala Ser Leu
 1 5 10 15
 Thr Ser Phe Phe Ala Pro Gly Ala Ser Gln Arg Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Thr Thr His Val Thr Gly Gly Ala Thr Gly His Thr Thr Ser Gly Ile
 1 5 10 15
 Ala Ser Leu Phe Leu Pro Gly Ala Ser Gln Lys Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Asp Thr Tyr Ala Ser Gly Gly Ala Gln Gly Arg Ser Thr Leu Gly Phe
 1 5 10 15

Thr Ser Leu Phe Thr Pro Gly Ala Ser Gln Lys Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:29:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

Asp Thr Tyr Ala Ser Gly Gly Ala Ala Gly Arg Ala Thr Tyr Gly Ile
 1 5 10 15
 Thr Ser Leu Phe Ala Pro Gly Ala Ser Gln Asn Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:30:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Arg Thr Tyr Ala Ser Gly Gly Ala Ala Gly Arg Thr Thr His Gly Phe
 1 5 10 15
 Thr Ser Leu Phe Ser Thr Gly Ala Arg Gln Asn Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:31:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Gln Thr Tyr Val Thr Gly Gly Lys Ala Ala Gln Thr Val Ser Gly Phe
 1 5 10 15

Thr Gly Leu Phe Ser Ser Gly Pro Ser Gln Lys Ile Gln Leu Ile
20 25 30

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Asp	Thr	Tyr	Val	Ser	Gly	Gly	Ala	Ala	Ala	Arg	Ser	Ile	Ser	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Thr	Pro	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Ser	Thr	Tyr	Val	Thr	Gly	Gly	Glu	Ala	Ser	Arg	Thr	Thr	Arg	Gly	Phe
1				5					10					15	
Ala	Ser	Leu	Phe	Thr	Leu	Gly	Ser	Ser	Gln	Lys	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Asn Thr Tyr Val Thr Gly Gly Ser Ala Gly Arg Ala Val Ala Gly Phe
1 5 10 15

Ala Gly Leu Leu Gln Pro Gly Ala Lys Gln Asn Val Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:35:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

His Thr Arg Val Thr Gly Gly Gln Val Ala Phe Arg Thr His Gly Leu
 1 5 10 15
 Val Ser Leu Phe Thr Gln Gly Pro Ser Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:36:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

His Thr His Val Thr Gly Gly Arg Val Ala Ser Ser Thr Gln Ser Leu
 1 5 10 15
 Val Ser Trp Leu Ser Gln Gly Pro Ser Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:37:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

His Thr Arg Val Thr Gly Gly Val Gln Gly His Val Thr Ser Thr Leu
 1 5 10 15

Thr Ser Leu Phe Arg Pro Gly Ala Ser Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:38:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Asn Thr Arg Val Thr Gly Gly Val Gln Gly Arg Asp Thr Ser Gly Leu
 1 5 10 15

Val Ser Leu Phe Ser Leu Gly Pro Ser Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:39:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

Asp Thr His Val Thr Gly Gly Ala Gln Ala Lys Thr Thr Asn Arg Leu
 1 5 10 15

Val Ser Met Phe Ala Ser Gly Pro Ser Gln Lys Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:40:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

Glu Thr His Val Thr Gly Gly Ala Ser Ala Arg Thr Thr Gln Arg Phe
 1 5 10 15

Thr Ser Phe Phe Asp Leu Gly Pro Ser Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:41:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Thr Thr Tyr Met Thr Gly Gly Ala Asn Ala Arg Thr Thr Gln Gly Phe
 1 5 10 15
 Val Ser Leu Phe Thr Pro Gly Pro Ala Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:42:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Glu Thr His Val Thr Gly Gly Thr Ser Ala Arg Thr Thr Gln Gly Phe
 1 5 10 15
 Val Ser Leu Phe Ser Ala Gly Ala Ser Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:43:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

Gly Thr His Val Thr Gly Gly Gln Ala Ala Arg Thr Thr Gln Ser Phe
 1 5 10 15

Thr Ser Leu Phe Ser Pro Gly Pro Gln Gln Lys Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:44:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

Arg Thr His Val Thr Gly Gly Lys Ala Ala His Thr Thr Lys Gly Phe
 1 5 10 15

Ala Ser Leu Phe Thr Pro Gly Pro Ser Gln Asn Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:45:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Glu Thr Arg Val Thr Gly Ala Val Gln Gly His Gly Ala Leu Gly Leu
 1 5 10 15

Ala Ser Leu Phe Thr Pro Gly Pro Ser Gln Lys Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:46:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Glu Thr Arg Val Thr Gly Ala Ile Ala Gly Arg Thr Ala Ser Ser Phe
 1 5 10 15

Ala Gly Leu Phe Thr Ser Gly Ala Ser Gln Lys Ile Gln Leu Val

(2) INFORMATION FOR SEQ ID NO:47:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Glu	Thr	Arg	Val	Thr	Gly	Gln	Gln	Val	Gly	Arg	Thr	Thr	Gln	Ser	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Thr	Pro	Gly	Pro	Ser	Gln	Thr	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:48:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Gln	Thr	Arg	Val	Thr	Gly	Ala	Gln	Val	Gly	Arg	Thr	Thr	Ser	Ser	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Thr	Pro	Gly	Pro	Ser	Gln	Asn	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:49:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Arg	Thr	Gln	Val	Thr	Gly	Ala	Gln	Ala	Gly	His	Thr	Thr	Ser	Gly	Leu
1				5					10					15	
Ala	Ser	Leu	Phe	Thr	Pro	Gly	Pro	Ser	Gln	Lys	Ile	Gln	Leu	Val	

(2) INFORMATION FOR SEQ ID NO:50:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Glu	Thr	His	Val	Thr	Gly	Gly	Ser	Ala	Gly	His	Thr	Val	Ser	Gly	Phe
1				5					10					15	
Val	Ser	Leu	Leu	Ala	Pro	Gly	Ala	Lys	Gln	Asn	Val	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:51:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Glu	Thr	His	Val	Thr	Gly	Gly	Ser	Ala	Gly	His	Thr	Val	Thr	Gly	Ile
1				5					10					15	
Ala	Ser	Leu	Phe	Thr	Ser	Gly	Ala	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:52:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Ser	Thr	His	Val	Thr	Gly	Gly	Thr	Ala	Ala	His	Thr	Val	Ala	Gly	Phe
1				5				10						15	
Ser	Ser	Leu	Phe	Thr	Val	Gly	Pro	Lys	Gln	Asn	Ile	Gln	Leu	Ile	

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(2) INFORMATION FOR SEQ ID NO:53:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Glu	Thr	His	Val	Thr	Gly	Gly	Ala	Ala	Ala	Tyr	Thr	Ala	Ala	Gly	Leu
1				5					10					15	
Ala	Ser	Leu	Phe	Thr	Ser	Gly	Ala	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:54:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

Glu	Thr	His	Val	Thr	Gly	Gly	Ser	Ala	Gly	Arg	Thr	Thr	Ala	Gly	Leu
1				5					10					15	
Val	Gly	Leu	Leu	Thr	Pro	Gly	Ala	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

Gly	Thr	His	Val	Thr	Gly	Gly	Ser	Ala	Gly	Arg	Ala	Thr	Ala	Gly	Ile
1				5					10					15	
Ala	Gly	Leu	Leu	Thr	Pro	Gly	Ala	Arg	Gln	Asn	Ile	Gln	Leu	Val	

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(2) INFORMATION FOR SEQ ID NO:56:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

Lys	Thr	His	Val	Thr	Gly	Gly	Ser	Ala	Ala	Arg	Thr	Thr	Ser	Gly	Ile
1				5					10					15	
Ala	Ser	Leu	Leu	Thr	Pro	Gly	Ala	Lys	Gln	Asn	Val	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:57:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

Lys	Thr	Tyr	Val	Thr	Gly	Gly	Ser	Gln	Ala	Gln	Ala	Thr	Phe	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Leu	Gln	Gln	Gly	Ala	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:58:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

Glu	Thr	Thr	Val	Thr	Gly	Gly	Ser	Ala	Ala	His	Gly	Ala	Leu	Gly	Ile
1				5					10					15	
Ala	Ser	Leu	Phe	Asn	Gln	Gly	Ala	Arg	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:59:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

Glu	Thr	Tyr	Val	Thr	Gly	Gly	Ala	Ser	Ala	Arg	Ser	Thr	Phe	Thr	Leu
1				5					10					15	
Val	Gly	Leu	Phe	Lys	Gln	Gly	Ser	Gln	Gln	Asn	Ile	Gln	Leu	Val	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:60:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

Gln	Thr	Tyr	Val	Ser	Gly	Gly	Ser	Ser	Gly	Arg	Thr	Thr	Ser	Gly	Leu
1				5					10					15	
Val	Ser	Ile	Phe	Ser	Pro	Gly	Ala	Ser	Gln	Asn	Leu	Gln	Leu	Ile	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:61:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Glu	Thr	Tyr	Val	Ser	Gly	Gly	Ala	Ala	Ala	Gln	Thr	Thr	Ala	Arg	Phe
1				5					10					15	
Ala	Gly	Phe	Phe	Gln	Ser	Gly	Ala	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:62:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

Glu	Thr	Tyr	Val	Ser	Gly	Gly	Ser	Ala	Ala	Gln	Thr	Thr	Ala	Gly	Phe
1				5				10						15	
Val	Arg	Leu	Phe	Glu	Thr	Gly	Pro	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:63:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Ser	Thr	Tyr	Val	Ser	Gly	Gly	Ala	Gln	Ala	Arg	Ala	Ala	Gln	Gly	Ile
1				5				10						15	
Thr	Ser	Leu	Phe	Ser	Arg	Gly	Ser	Ser	Gln	Lys	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:64:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

Ser	Thr	Tyr	Val	Thr	Gly	Gly	Thr	Gln	Gly	Arg	Ala	Ala	Ser	Gly	Leu
1				5				10						15	
Thr	Ser	Leu	Phe	Ser	Ala	Gly	Ala	Ser	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:65:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Asn	Thr	Tyr	Val	Ser	Gly	Gly	Thr	Ala	Gly	His	Thr	Gly	His	Gly	Leu
1				5					10					15	
Thr	Ala	Leu	Phe	Ser	Pro	Gly	Ala	Ser	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:66:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

Ser	Thr	Ile	Val	Ser	Gly	Gly	Thr	Val	Ala	Arg	Thr	Thr	His	Ser	Leu
1				5					10					15	
Ala	Ser	Leu	Phe	Thr	Gln	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:67:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

Glu	Thr	Tyr	Thr	Ser	Gly	Gly	Ala	Ala	Ser	His	Thr	Thr	Ser	Thr	Leu
1				5					10					15	
Ala	Ser	Leu	Phe	Ser	Pro	Gly	Ala	Ser	Gln	Arg	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:68:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

His	Thr	Leu	Thr	Thr	Gly	Gly	His	Ala	Ala	Arg	Leu	Thr	Ser	Gly	Phe
1				5					10					15	
Ala	Gly	Leu	Phe	Thr	Pro	Gly	Pro	Ser	Gln	Arg	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:69:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

Glu	Thr	Ile	Val	Ser	Gly	Gly	Gln	Ala	Ala	Arg	Ala	Met	Ser	Gly	Leu
1				5					10					15	
Val	Ser	Leu	Phe	Thr	Pro	Gly	Ala	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:70:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

Glu	Thr	Tyr	Thr	Ser	Gly	Gly	Asn	Ala	Gly	His	Thr	Met	Thr	Gly	Ile
1				5					10					15	
Val	Arg	Phe	Phe	Ala	Pro	Gly	Pro	Lys	Gln	Asn	Val	His	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:71:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Thr	Thr	Tyr	Thr	Thr	Gly	Gly	Asn	Ala	Ala	Arg	Thr	Thr	Gln	Ala	Leu
1				5					10					15	
Thr	Ser	Phe	Phe	Ser	Pro	Gly	Ala	Lys	Gln	Asp	Ile	Gln	Leu	Ile	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Glu	Thr	Tyr	Thr	Thr	Gly	Gly	Ser	Thr	Ala	Arg	Thr	Thr	Gln	Gly	Leu
1				5					10					15	
Val	Ser	Leu	Phe	Ser	Arg	Gly	Ala	Lys	Gln	Asp	Ile	Gln	Leu	Ile	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:73:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

Ala	Thr	Tyr	Thr	Ser	Gly	Gly	Ser	Ala	Ala	Arg	Thr	Thr	Gln	Gly	Phe
1				5					10					15	
Ala	Ser	Leu	Phe	Ser	Leu	Gly	Ser	Gln	Gln	Lys	Ile	Gln	Leu	Val	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:74:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

Ala	Thr	Tyr	Thr	Thr	Gly	Gly	Ser	Val	Ala	Arg	Thr	Thr	His	Gly	Phe
1				5					10					15	
Ser	Ser	Leu	Phe	Ser	Gln	Gly	Ala	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:75:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Val	Thr	Tyr	Thr	Thr	Gly	Gly	Ser	Gln	Ala	Arg	His	Thr	Gln	Ser	Val
1				5					10					15	
Thr	Ser	Phe	Phe	Thr	Gln	Gly	Pro	Ala	Gln	Arg	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:76:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

His	Thr	Tyr	Thr	Thr	Gly	Gly	Thr	Val	Ala	Arg	Ser	Thr	Gln	Gly	Leu
1				5					10					15	
Val	Gly	Phe	Leu	Ser	Pro	Gly	Pro	Ser	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Thr	Thr	Tyr	Val	Ser	Val	Gly	His	Ala	Ser	Gln	Thr	Thr	Arg	Arg	Val
1				5					10					15	
Ala	Ser	Phe	Phe	Ser	Pro	Gly	Ser	Ala	Gln	Lys	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:78:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

Thr	Thr	Thr	Val	Ser	Gly	Gly	His	Ala	Ser	Gln	Ile	Thr	Arg	Gly	Val
1				5					10					15	
Thr	Ser	Phe	Phe	Ser	Pro	Gly	Ser	Ala	Gln	Lys	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:79:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

Lys	Thr	Ser	Leu	Thr	Gly	Val	Thr	Arg	Ala	Arg	Ala	Ala	Ala	Arg	Leu
1				5					10					15	
Thr	Ala	Leu	Phe	Ser	Ser	Gly	Pro	Ser	Gln	Arg	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:80:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

Gly Thr Ser Leu Thr Gly Gly Ala Arg Ala Arg Ala Ala Ser Gly Leu
1 5 10 15
Ala Gly Leu Phe Ser Ser Gly Pro Ser Gln Arg Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:81:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Val Thr Gln Val Ser Pro Pro Gln Ala Gly Tyr Thr Thr Ser Val Leu
1 5 10 15
Thr Gly Ile Leu Ser Pro Gly Ala Lys Gln Asn Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:82:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

Val Thr Gln Val Ser Gly Gly Gln Ala Gly Tyr Thr Thr Ser Val Leu
1 5 10 15
Thr Gly Ile Leu Ser Pro Gly Ala Lys Gln Asn Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:83:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

Gly Thr Tyr Thr Val Gly Gly Ala Ser Ala Phe Thr Thr Ser Arg Leu
1 5 10 15
Thr Ser Leu Phe Ala Leu Gly Pro Ser Gln Arg Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:84:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

Asn Thr His Thr Val Gly Gly Thr Glu Gly Phe Ala Thr Gln Arg Leu
1 5 10 15
Thr Ser Leu Phe Ala Leu Gly Pro Ser Gln Lys Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:85:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Ser Thr Arg Thr Ala Gly Gly Ala Gln Ala Phe Asn Thr Tyr Gly Val
1 5 10 15
Ala Ser Ile Phe Ser Pro Gly Pro Ser Gln Arg Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:86:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Gln	Thr	His	Thr	Val	Gly	Gly	Ser	Thr	Ala	His	Asn	Ala	Arg	Thr	Leu
1				5					10						15
Thr	Gly	Met	Phe	Ser	Leu	Gly	Ala	Arg	Gln	Lys	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:87:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

Asn	Thr	Arg	Thr	Val	Ala	Gly	Ser	Ala	Ala	Ala	Thr	Thr	Arg	Gly	Phe
1				5					10						15
Thr	Ser	Met	Phe	Ser	Ser	Gly	Ser	Lys	Gln	Asn	Leu	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:88:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

Gln	Thr	Arg	Thr	Val	Gly	Gly	Gln	Val	Gly	His	Ser	Val	Arg	Gly	Phe
1				5					10						15
Thr	Ser	Leu	Phe	Ser	Ala	Gly	Ser	Ala	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:89:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

Glu	Thr	His	Thr	Thr	Gly	Ala	Val	Ser	Gly	His	Thr	Thr	Asn	Val	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ser	Ser	Gln	Asn	Ile	Gln	Leu	Ile	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:90:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Val	Thr	Arg	Thr	Thr	Gly	Glu	Val	Ala	Ala	Arg	Thr	Ala	Asn	Thr	Phe
1				5					10					15	
Ala	Ser	Leu	Phe	Thr	Thr	Gly	Pro	Ser	Gln	Asn	Ile	Gln	Leu	Ile	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:91:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Thr	Thr	Tyr	Ser	Ser	Gly	Gln	Glu	Ala	Gly	Arg	Thr	Val	Ala	Gly	Phe
1				5					10					15	
Ala	Gly	Leu	Phe	Thr	Thr	Gly	Ala	Lys	Gln	Asn	Leu	Tyr	Leu	Ile	
		20					25						30		

(2) INFORMATION FOR SEQ ID NO:92:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

Ser	Thr	Ser	Val	Val	Gly	Gly	Arg	Gln	Ala	Ser	Ala	Thr	Phe	Arg	Phe
1				5					10					15	
Thr	Ser	Phe	Phe	Ser	Arg	Gly	Pro	Thr	Gln	Glu	Ile	Lys	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:93:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

Asn	Thr	Tyr	Thr	Thr	Ala	Gly	Ser	Met	Ala	Gln	Ser	Ile	Tyr	Arg	Leu
1				5					10					15	
Thr	Asp	Ile	Phe	Ser	Thr	Gly	Pro	Ser	Gln	Lys	Leu	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:94:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

Arg	Thr	Ile	Leu	Met	Ala	Gly	Arg	Gln	Ala	Glu	Val	Thr	Gln	Ser	Phe
1				5					10					15	
Pro	Gly	Leu	Phe	Ser	Leu	Ala	Pro	Ser	Gln	Lys	Ile	His	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:95:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

Asp	Thr	Tyr	Ala	Thr	Gly	Gly	Ser	Val	Ala	Ser	Ile	Met	Ala	Gly	Ile
1				5					10					15	
Ala	Arg	Phe	Phe	Ser	Pro	Gly	Ala	Arg	Gln	Asp	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:96:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 30 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

Glu	Thr	Tyr	Ala	Thr	Gly	Ala	Ser	Ala	Gly	His	Asp	Val	Ser	Ser	Phe
1				5					10					15	
Ala	Arg	Leu	Phe	Ala	Pro	Gly	Ala	Arg	Gln	Asn	Ile	Gln	Ile		
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:97:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

Glu	Thr	His	Arg	Thr	Gly	Gly	Ser	Ala	Ala	Arg	Ser	Thr	Ala	Gly	Val
1				5					10					15	
Ala	Ser	Leu	Phe	Thr	Pro	Gly	Ala	Arg	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:98:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

Asn	Thr	Arg	Ala	Val	Gly	Met	Val	Gln	Ser	Arg	Thr	Thr	Tyr	Ala	Leu
1				5				10						15	
Thr	Ser	Leu	Phe	Asp	Ser	Gly	Ala	Ala	Gln	Lys	Leu	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:99:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

Glu	Thr	His	Val	Thr	Gly	Gly	Ser	Ala	Gly	Arg	Thr	Thr	Ala	Gly	Leu
1				5				10						15	
Val	Gly	Leu	Leu	Thr	Pro	Gly	Ala	Lys	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:100:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

Glu Thr His Val Thr Gly Gly Ser Ala Gly Arg Ser Val Leu Gly Ile Ala

1	5	10	15
Ser	Phe	Leu	Thr
20	Arg	Gly	Pro
	Lys	Gln	Asn
	Ile	Gln	Leu
		30	Ile

(2) INFORMATION FOR SEQ ID NO:101:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Glu	Thr	Tyr	Thr	Ser	Gly	Gly	Ala	Ala	Ser	His	Thr	Thr	Ser	Thr	Leu
1				5					10					15	
Ala	Ser	Leu	Phe	Ser	Pro	Gly	Ala	Ser	Gln	Arg	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:102:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

Ala	Thr	Tyr	Thr	Ser	Gly	Gly	Val	Ala	Ser	His	Thr	Thr	Ser	Arg	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Arg	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:103:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

Ala	Thr	Tyr	Thr	Ser	Gly	Ala	Val	Ala	Ser	His	Thr	Thr	Ser	Arg	Phe
1				5					10					15	
Thr	Ser	Phe	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Arg	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:104:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

Ala	Thr	Tyr	Thr	Ser	Gly	Ala	Val	Ala	Ser	His	Thr	Thr	Ser	Arg	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Arg	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:105:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

Ala	Thr	Tyr	Thr	Ser	Gly	Ala	Val	Ala	Ser	His	Thr	Thr	Ser	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Arg	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:106:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 31 amino acids

(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

Glu	Thr	Tyr	Thr	Ser	Gly	Arg	Val	Ala	Gly	His	Thr	Thr	Ser	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Arg	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:107:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

Ala	Thr	Tyr	Thr	Ser	Gly	Gly	Val	Ala	Gly	Arg	Thr	Thr	Ser	Gly	
1				5					10					15	
Phe	Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Val
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:108:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

Glu	Thr	His	Thr	Thr	Gly	Arg	Val	Ala	Gly	His	Thr	Thr	Ser	Arg	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

Glu	Thr	His	Thr	Thr	Gly	Arg	Val	Val	Gly	His	Thr	Thr	Ser	Gly	
1				5					10					15	
Phe	Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Val
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:110:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

Glu	Thr	His	Thr	Thr	Gly	Arg	Val	Ala	Gly	Arg	Thr	Thr	Ser	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ser	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:111:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

Thr Thr Tyr Thr Ser Gly Gly Val Ala Gly Arg Thr Thr Ser Gly
 1 5 10 15
 Phe Thr Ser Leu Phe Ser Ser Gly Ala Ser Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:112:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

Lys Thr Tyr Thr Ser Gly Gly Ala Ala Ser His Thr Thr Ser Arg
 5 10 15
 Phe Thr Ser Leu Phe Ser Pro Gly Ala Ser Gln Arg Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:113:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

Ser Thr Arg Val Thr Gly Gly Gln Gln Gly Arg Ala Val His Gly Ile
 1 5 10 15
 Ala Ser Leu Phe Ser Leu Gly Ala Ser Gln Lys Ile Gln Leu Val
 20 25 30

(2) INFORMATION FOR SEQ ID NO:114:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

Ser	Thr	Arg	Val	Thr	Gly	Gly	Gln	Gln	Gly	Arg	Ala	Val	Gln	Gly	Phe
1				5					10					15	
Ala	Ser	Leu	Phe	Arg	Leu	Gly	Ala	Ser	Gln	Glu	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:115:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:

Ser	Thr	Arg	Val	Thr	Gly	Gly	Gln	Gln	Gly	Arg	Ala	Val	His	Gly	Ile
1				5					10					15	
Ala	Ser	Leu	Phe	Ser	Leu	Gly	Ala	Ser	Gln	Lys	Asn	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:116:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:

Ser	Thr	Arg	Val	Thr	Gly	Gly	Gln	Gln	Gly	His	Ala	Ala	His	Ser	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Arg	Leu	Gly	Ala	Ser	Gln	Asn	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:117:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:117:

Asn	Thr	Arg	Val	Thr	Gly	Gly	Arg	Gln	Gly	Arg	Ala	Ala	His	Ser	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Pro	Gly	Ala	Ser	Gln	Asn	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:118:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:118:

Gly	Thr	Arg	Val	Thr	Gly	Gly	Arg	Gln	Gly	Arg	Ala	Ala	His	Ser	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Pro	Gly	Ala	Ser	Glu	Asn	Ile	Arg	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:119:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:119:

Ser	Thr	Arg	Val	Ser	Gly	Gly	Gln	Gln	Gly	Arg	Ala	Ala	His	Ser	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Thr	Leu	Gly	Ala	Ser	Gln	Asn	Ile	Gln	Leu	Val	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:120:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

Ser	Thr	His	Val	Thr	Gly	Ala	Leu	Gln	Gly	Arg	Ala	Ala	Tyr	Gly	Ile
1				5				10					15		
Thr	Ser	Phe	Leu	Ser	His	Gly	Pro	Ser	Gln	Lys	Ile	Gln	Leu	Val	
			20				25						30		

(2) INFORMATION FOR SEQ ID NO:121:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:121:

Ser	Thr	Gln	Val	Met	Gly	Gly	Gln	Gln	Gly	Arg	Ala	Ala	Tyr	Ser	Leu
1				5				10					15		
Ala	Ser	Leu	Leu	Ser	Pro	Gly	Ala	Asn	Gln	Lys	Ile	Gln	Leu	Val	
			20				25						30		

(2) INFORMATION FOR SEQ ID NO:122:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:122:

Ser	Thr	Gln	Val	Met	Gly	Gly	Gln	Gln	Gly	Arg	Ala	Ala	Tyr	Ser	Leu
1				5					10					15	
Ala	Ser	Leu	Leu	Gly	Pro	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:123:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:123:

Ser	Thr	Gln	Val	Met	Gly	Gly	Gln	Gln	Gly	Arg	Ala	Ala	Tyr	Ser	Leu
1				5					10					15	
Ala	Ser	Leu	Leu	Ser	Pro	Gly	Ala	Ser	Gln	Lys	Ile	Gln	Leu	Val	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:124:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:124:

Arg	Thr	Arg	Thr	Val	Gly	Gly	Gln	Val	Gly	His	Ser	Val	Arg	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ala	Gly	Ser	Ala	Gln	Asn	Ile	Gln	Leu	Ile	
		20						25					30		

(2) INFORMATION FOR SEQ ID NO:125:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:125:

Gln	Thr	Arg	Thr	Val	Gly	Gly	Gln	Val	Gly	His	Ser	Val	Arg	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ala	Gly	Ser	Ala	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:126:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:126:

Gln	Thr	Arg	Thr	Val	Gly	Gly	Gln	Val	Gly	His	Ser	Val	Arg	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ala	Gly	Ser	Ala	Gln	Asp	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:127:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:127:

Gln	Thr	Arg	Thr	Val	Gly	Gly	Gln	Val	Gly	His	Ser	Val	Arg	Gly	Phe
1				5					10					15	
Thr	Ser	Leu	Leu	Ser	Ala	Gly	Ser	Ala	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:128:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:128:

Gln	Thr	Arg	Thr	Val	Gly	Gly	Gln	Val	Gly	His	Ser	Val	Arg	Gly	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ala	Gly	Ser	Ala	Gln	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:129:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:129:

Gln	Thr	Arg	Thr	Val	Gly	Gly	Gln	Met	Gly	His	Gly	Val	Arg	Gly	Leu
1				5					10					15	
Thr	Ser	Leu	Phe	Ser	Ala	Gly	Ser	Ala	Arg	Asn	Ile	Gln	Leu	Ile	
			20					25					30		

(2) INFORMATION FOR SEQ ID NO:130:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:130:

Gln	Thr	His	Thr	Val	Gly	Gly	Gln	Met	Gly	His	Gly	Val	Arg	Gly	Leu
1				5					10					15	

Thr Ser Leu Phe Ser Ala Gly Ser Ala Gln Asn Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:131:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:131:

Gln Thr His Thr Val Gly Gly Gln Met Gly His Gly Val Arg Gly Leu
 1 5 10 15
 Thr Asn Leu Phe Ser Ala Gly Ser Ala Gln Asn Ile Gln Leu Ile
 20 25 30

(2) INFORMATION FOR SEQ ID NO:132:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 24 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:132:

Glu Thr His Val Thr Gly Gly Ser Ala Gly His Thr Val Ser Gly Phe
 1 5 10 15
 Val Ser Leu Leu Ala Pro Gly Ala
 20

(2) INFORMATION FOR SEQ ID NO:133:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(ix) FEATURE:

(A) NAME/KEY: Xaa
(B) LOCATION: 1
(D) OTHER INFORMATION: /label=Ahe
/note=2-amino heptanoic acid butyl alanine

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:133:

Xaa	Glu	Thr	His	Val	Thr	Gly	Gly	Ser	Ala	Gly	His	Thr	Val	Ser	Gly
1				5				10						15	
Phe	Val	Ser	Leu	Leu	Ala	Pro	Gly	Ala	Lys	Gln	Asn	Val	Gln	Leu	
			20				25						30		

(2) INFORMATION FOR SEQ ID NO:134:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:134:

Ser	Leu	Phe	Xaa	Xaa	Gly
1				5	
